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Cover

This month's cover photograph by Mark Tapia shows the unloading of the first 3033 Model N8 for installation in the McLennan Labs.

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3033 MODEL N8 INSTALLATION

Once again the machine room will be a beehive of activity, reminiscent of the winter of 1978/1979 when UTCS centralized operations into the McLennan Lab facilities. The conversion from the current 3033U6, 3031-O06 and the S/370-165-II to the twin 3033 Model N8s is less complicated than our previous consolidation project. On this occasion we are not faced with:

- moving to a new generation of machines (the 303X Series)
- upgrading to a new generation of disk storage
- commissioning a new site
- physical moves from separate buildings in winter weather
- large telecommunications switchovers
- operating system upgrades

However, before assuming that the current conversion is simple by comparison, note the following factors that will keep project teams on their toes.

- The lead time from project inception to completion is substantially shorter. This puts pressure on the various UTCS and PPD design and modification cycles *and'* on IBM's production and delivery schedules.
- The conversion requires UTCS to operate four machines for a period of approximately six weeks, including three water-cooled, motor/generator - powered machines. Accordingly, the utilities reviews and temporary modifications are complex, resulting in an increased load on air-conditioning and electrical supplies.
- Floor space in the machine room is at a premium. As a result, there will be numerous peripheral device moves to accommodate the first 3033 Model N8.
- The removal phases of the 3033U6 and the 3031 are very tightly scheduled because of delivery obligations and also because of an immediate need to reclaim vacated floor space.
- An extra motor/generator is required on a temporary basis for this project. It is not an off-the-shelf item even by computer component standards.
- The project concludes with three user software system conversions involving ATS, APL and CLASS E services. Smooth conversions of application software subsystems are not easy. There is extensive documentation and user contact required concurrent with the technical aspects of the software changes.

From the above, short lead time and modifications to the utilities predominate in importance. These factors were accommodated in designing the new floor layout. UTCS had ascertained that plumbing modifications would cause the largest impact to services, i.e., an extended complete shutdown would be unavoidable. Fortunately, at the time of construction, an extra set of plumbing attachments had been incorporated into the site as a contingency for the original S/370-165-II move. UTCS therefore designed a layout which created appropriate, consolidated space for one extra 3033 Model N8. This was accomplished by moving most of the peripheral disks, some tape control and switching equipment and the Power/Coolant Distribution Unit for the S/370-165-II. With this area freed, the first 3033 Model N8 is installed, without disruption of the existing 3033U6 service (except for the actual cutover). When the cutover is complete, the 3033U6 can be moved and its position used for installation of the second 3033 Model N8. Following the second installation, the current 3031 can be removed.

The S/370-165-II will remain in position and operational until the three user software services currently running on the machine (APL, ATS and CLASS E) are converted to equivalent new services on the

continued...

3033 MODEL N8 INSTALLATION continued

3033 Model N8s. It is difficult to predict with precision when these conversions will be executed. *COMPUTERNEWS* will continue to supply information.

The following article is the installation schedule. All pre-installation activities have been completed on or ahead of schedule. Barring unforeseen circumstances, the remaining activities up to the weekend of July 5/6 will be executed on schedule with minimum down time (other than weekends or holidays). If you are in the vicinity of the McLennan Labs during June, come up to the viewing windows on the third floor to observe the installation in progress.

Derry Cox

IMPLEMENTATION SCHEDULE FOR THE 3033 MODEL N8S

The schedule appearing below indicates major steps in the conversion process from the current machine configuration (3033U6, 3031 and S/370-165-II) to the new configuration of two 3033 Model N8s. Every effort has been made to reduce system interruptions to an absolute minimum. However, some periods of downtime are unavoidable. These have been scheduled on weekends or holidays in all cases. Those activities that actually affect production time are printed in boldface.

In this article, the first 3033 Model N8 to be installed will be called N8A. The second machine will be referred to as N8B.

Dates and Activities

Monday, May 19

Move disk drives to new locations. **370/165 APL, ATS and Class E services will be unavailable from 14:00-24:00.**

Saturday, May 24/Sunday, May 25

Relocate 165 Power/Coolant Distribution Unit. **370/165 APL, ATS and Class E services will be unavailable from 18:00 May 24 until 10:00 May 25.**

Monday, June 2

IBM commences installation of N8A.

Friday, June 6

UTCS Systems Group commences software testing, benchmarking and accounting algorithm changes.

Saturday, June 14/Sunday, June 15

Switch-over from the current 3033U6 to N8A commencing at 20:00 hours Saturday. This should be complete by 08:00 Sunday, however in the event that problems or delays occur, academic services will be restored as soon as possible on Sunday.

Monday, June 16

IBM and UTCS commence the dismantling and packing of the 3033U6.

Monday, June 23

IBM commences installation of N8B.

Friday, June 27

UTCS Systems Group commences software testing, benchmarking and accounting algorithm changes.

Saturday, July 5/Sunday, July 6

Switchover from the current 3031 to N8B commencing at 00:00 Saturday. Work will be completed by 12:00, Sunday, July 6.

Monday, July 7

continued...

IMPLEMENTATION SCHEDULE continued

IBM and UTCS commence the dismantling and packing of the 3031.

Further to this schedule, four activities remain to be completed:

1. Conversion of Sharp APL from the 370/165 MVT version to an MVS/APL currently under testing.
2. Conversion of ATS services from the 370/165 to ATMS III currently under testing.
3. Conversion of Class E services to N8A.
4. Reconfiguration of all 370/165 peripheral hardware to the 3033 Model N8s and dismantling of the 370/165.

At this time it is not possible to specify the exact conversion dates and times with precision. UTCS estimates that these activities will take place no later than September. Future schedules will be published as soon as we are in a position to identify exact conversion times.

Derry Cox

ATTENTION END USERS

Visible impact of the mainframe hardware change on end users will be evident only in slower processing time. Following the installation of the twin 3033 model N8s (replacing the 165, 3031 and 3033U6), measured CPU time will be elongated 20% to 50%. Accordingly, a user who estimates his CPU time closely should increase same by 50%.

These estimates are based on IBM benchmarks of scientific and data processing job mixes. In terms of the UTCS job mix, a range of applicable values is yet to be determined. Eventually it may be possible to reduce the estimate, depending on the processing characteristics involved.

General batch and TSO will reflect elongations in the high range and scientific computation in the low range.

The maximum CPU for Class A will increase from 3 to 5 minutes. Similarly, the maximum increase for HSJS will be from 2 to 3 seconds.

As a result, rates for CPU and memory will be adjusted by as yet undetermined amounts. An equitable adjustment is our aim. However, this cannot be guaranteed.

Ward Beattie

MVS SHARP APL

The MVS Version of Sharp APL has been tested by a selected group of users over the last month. The differences that were reported are minor. In general, workspaces continue to run as they did on the MVT system.

The reported differences are being documented and a user conversion guide is in preparation. This guide will be made available to users before the new release goes into production.

The system has run reliably during the user test period and UTCS anticipates no prob-

continued...

MVS SHARP APL continued

lems when production commences.

During the next few months, several systems level and accounting changes must be made to bring the system up to production readiness.

Please consult future *COMPUTERNEWS* issues for further information.

Eric Haberfellner

PRODUCT LINE GROUP REPORT

Several months ago UTCS announced the formation of Product Line Groups (PLGs) representing major areas of user interest like Graphics, Statistics, Data Processing, APL etc. UTCS divisional representatives meet regularly to plan overall support of these groups.

Work performed by PLGs is frequently transparent to the user community. I.e., procedures like maintenance and repair of program bugs don't attract attention. However, most visible is the installation of FILEBOL and the recent upgrades to MARK IV and SAS. PLGs have also been active in planning the conversions of ATS to ATMS and of MVT/APL to MVS/APL. This co-ordinated effort to support a product has resulted in increased service.

UTCS expects to make PLGs increasingly visible. At present we are investigating a means of organizing documentation *by product.* This reorganization will benefit users. Present documentation, USERBOOK in particular, is organized by type of machine. At one time this was reasonable, reflecting the way in which computing services were delivered to the university community. Today, however, expanded services and an increased number of machines have caused us to re-examine our means of delivering services. PLGs are the framework for delivery as is documentation which reflects the product line orientation.

Consider the product Statistics. At present, statistical services are offered on four of our computers. There is no central document to notify users of all the statistical services available at UTCS. This information is totally distributed or divided into each of the machine areas. Reorganizing documentation to reflect product (groups) will address this deficiency. At present documentation for statistical applications is first in line for reorganization. Documentation for other PLGs will undergo similar reorganization.

Because of the number of services offered by UTCS and the corresponding need for extensive documentation, the restructuring will not be an overnight change. It will take place gradually, on a product by product basis.

During the next six months, benefits will become increasingly visible to our users as the Product Line Group approach continues.

Don Gibson

TEXT SERVICES GROUP

Over the past years, the use of UTCS computers for text processing applications has grown dramatically. Although UTCS has been sensitive to the needs of particular users, there has not, until now, been a group uniquely concerned with text users. This is unfortunate since the text user community is traditionally less familiar with computing facilities and jargon than scientific users. It is thus with pleasure that I report the formation of a Text Services Group.

This group's prime responsibility is the support and future planning of text services in general for campus-wide use. The immediate manifestation of this role will be the implementation of ATMS as a replacement for ATS. In the longer run, facilities like typesetting, VIVA, word processing and text information retrieval will all fall under its jurisdiction.

The group currently includes myself as Manager of Text Services, in which capacity I shall oversee administration and planning. Mr. Lidio Presutti is a member of the group, primarily concerned with providing text-related specialist programming. Bernie Ogino is the expert in training and documentation for the systems provided by UTCS. A supervisor responsible for planning and co-ordinating the development of text services will be appointed shortly.

We all intend that UTCS' committment to improving its text facilities will provide the university community with an enhanced service. Should there be any questions, please do not hesitate to contact me at 978-4619.

Frank Spitzer

COMMUNICATIONS AND SMALL SYSTEMS NEWS

Room 106 in the Sandford Fleming Building houses the UTCS mini- and microcomputer shop. By offering general purpose computing to all departments of the university and to the outside world, the Communications and Small Systems (CSS) lab has the opportunity to specialize.

A Range of Clients

Consider the range of clients: a physician who studies bonding in premature babies; engineers from TRANSCANADA Pipelines, monitoring pipeline corrosion and seam conditions; a physicist involved with the bombardment of gamma particles.

Initially attracted to CSS by accessible hardware and software facilities, researchers subsequently find solutions for their unique applications. The needs for their applications are accommodated by consulting with CSS staff who either modify existing software or help clients to do so themselves.

The Aim of CSS

As mentioned in the May *COMPUTERNEWS*, the prime concern of CSS involves the reasonable sequence of data acquisition, data conversion (to a machine-readable medium) and then data analysis. In this process, the lab deals mainly with digital signal processing, or the study of wave forms. (I.e., "You give us the waves.... we'll give you the numbers.")

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CSS NEWS continued

Digitizing

CSS translates a customer's waves into numeric data: from a television screen - **video digitizing;** from a 'drawing board' on which the client traces pictures or charts - **tablet digitizing;** or from a tape recorder by the process of **analog to digital digitizing.** This latter process determines voltage values (the 'ups' and 'downs' of waves) and stores them as numbers.

Interesting Studies

Two interesting studies are currently utilizing tablet digitizing. A researcher involved in a periodontal ligament study actually traces small bodies in a representation of a tooth cross section, acquiring data on cell counts within fixed areas around blood vessels, vessel circumferences etc. At the Hospital for Sick Children in Toronto, psoriasis was studied - photographs of afflicted sites were traced and analyzed for change over a period of more than three years.

Two particular projects utilize analog to digital digitizing. In both cases, tape recorders provide data to a computer for conversion to numerics for subsequent analysis. In the case of the first study, 100 channels of taped information on factors like wind velocity are captured at Toronto's CN Tower. In the second case, a heart valve study, tapes of animal heartbeats yield valuable information about the similar implantation of artificial valves in human beings. Pitting and corrosion of valves is studied.

Future Prospects

Presently the CSS minicomputer accommodates one user at a time. A new operating system will soon permit multiple users. At this time, CSS sells microcomputers with software to be used on-site and will continue to acquire expertise with four new microcomputers, further enhancing the lab's usefulness to a wide variety of customers.

Phil Girouard

201C MODEM FOR RJE SERVICE

UTCS has recently installed a 201C modem for RJE **dial-in** service to the IBM 3033. The 201C provides 2400 bit/sec., half duplex, synchronous data transmission. This is a modest upgrade to the 2000 bit/sec. 201A modem service also provided by UTCS. As the purchase prices of both 201A and 201C modems (about $1400.) are comparable, and the Bell monthly lease ($95/month) is the same, new remote users should opt for the 201C. Current users of our 201A modems should also consider switching to the 201C, particularly if they are leasing from Bell.

Note that these modems are for dial-in service through the Bell telephone network. Users within reach of short leased lines would be better served by limited distance data sets. These are less expensive and provide higher data rates.

Who might use 201C modems for RJE service? Logically, the user with a card reader/line printer workstation, who is not within economical reach by a leased line, is a candidate. Also, a user who does have a leased line but wants some form of back-up protection in case of troubles with his leased line facilities might consider the alternate 201C route. One of the advantages of RJE services is an error-free communications protocol. Consequently, users with mini- or microcomputers that have emulation capabilities of workstations could use RJE facilities for error-free file transfer to the 3033. Several word processors provide such emulation capability for communicating with mainframes.

If you are one of the above, contact your

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201C MODEM FOR RJE SERVICE continued

Computing Services Representative (CSR) for the additional information on charges and accessibility to the 201C service.

Walter Rosocha

USER SURVEY RESULTS

In April, UTCS launched a general user survey to gather opinions concerning UTCS services and products. The survey questionnaires were placed at several locations and were distributed in the April issue of *COMPUTERNEWS.*

It was planned, as stated, to present the survey results in the June *COMPUTERNEWS.* Because of the large response to the survey, results will not be available until the August issue.

UTCS would like to thank all users who took the time and effort to complete the questionnaires.

Ralph Lombardi

NEW IMSL EDITION 7

Users of the International Mathematical and Statistical Library (IMSL) are reminded that on July 1, Edition 7 becomes the default version. There are a number of additions, deletions and changes from the current default, which is Edition 6. Edition 6 will be available until about 15 September.

Your local Computing Services Representative (CSR) now has a conversion aid handout and will be glad to answer any questions you may have.

John Roth

DECSYSTEM-1090 USER'S FORUM

On Thursday, May 1 UTCS users had an opportunity to discuss the present status of and future plans for the DECsystem-10. More than two hours of informal discussion about the system, with coffee and donuts, involved several interested users. Twelve UTCS staff members also attended the forum.

The meeting was chaired by Dr. Edmund West, supervisor of the DECsystem-10. West introduced three staff members involved with the DEC-10 who came into frequent contact with the public: Corot Reason, system programming; Krishna Patnaik, supervisor of operations; Mark Tapia, programming advisor.

West announced that the DECsystem-10 would be moved from the Sandford Fleming building before the end of the year, likely to the McLennan Laboratories at 60 St. George St.

There was a lengthy discussion about the recently introduced *line daemon,* a mechanism for disconnecting users who try to retain a telephone port without actually using the system. As well, the moves were

continued...

DEC-10 USER'S FORUM continued

described for encrypting all user passwords (to improve system security) and for permiting the use of the SEND command only if a user is logged in. West announced plans to enhance the online accounting system so that a user's balance would be updated nightly, reflecting his total usage of the system. At present only the user's session charges are included in the online balance. However, the non-session charge items (mounts, printing etc.) are charged to the Customer Account Number (CAN) on a monthly basis.

Poor response time, so often experienced by users, was also discussed. West pointed out that with only 256 K words of memory available, jobs often waited to be swapped in before the user saw any action. He assured that UTCS was monitoring the situation with a view to obtaining more main memory if it could be economically justified on the basis of overall system utilization.

Wally Rosocha, in charge of the new UTCS PACX system, talked about how it would impact the DEC-10 user. Specifically, the PACX would be an additional interface between the user and the computer. It should be totally transparent once the initial dialog resulted in a final connection to the desired host.

During the meeting Krishna Patnaik described the role played by operators in running the DEC-10. He talked about hours of service, operator assistance for user problems and the details of file backup procedures.

Corot Reason dealt with two areas. He first announced the existence of IPRINT, the nearly ready replacement for IBMLST. It will have many new features, primarily making it easier for users to print files on the various IBM printers.

Reason also described the intention of UTCS to offer more DEC-10 user courses in future, if required. Proposals for new courses include

(1) advanced DEC-10 user,
(2) assembler language, and
(3) interactive statistical packages.

Users who would like to attend these or *any* future courses should contact Corot at 978-6601.

Edmund West

SPRING '80 DECUS REPORT

The spring Digital Equipment Corporation User's Society (DECUS) meeting, held in Chicago in April, involved only minor announcements by DEC regarding the 10/20 product lines. The meeting however did provide an excellent forum for the DEC-10 user community, allowing the presentation of complaints to DEC and the sharing of useful information with other DEC-10 sites.

The single most important event of the meeting was a session in which representatives from about 70 DEC-10 sites accused DEC of poor software maintenance. For five years this issue had been raised at DECUS and DEC's response in those 5 years had been unsatisfactory. At this session users were to have presented DEC with a menu of wishes. Instead they gave DEC an ultimatum: DEC must provide maintenance releases of its utilities and other products soon - or else. The 'or else' was not clarified.

DEC has not issued a general release of systems utilities like PIP, DIRECT etc. since 1975 and the number of outstanding patches to these programs is increasing. Apparently the problem is administrative. However, rumour has it that next year DEC plans to budget money for at least part of the job.

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SPRING '80 DECUS REPORT continued

Digital hinted at an announcement of two new hardware products for the 10/20 product line. One of the products would be a new memory. A realignment of DEC-10 memory prices would follow the eventual release of this product. This is good news for UTCS since our DEC-10 will likely require additional memory in the not too distant future. The other product was a large volume Winchester technology disk, described with a minimum of detail.

DEC did not formally announce these products. Their policy is to make such announcements only when the product is available immediately for shipping. DEC also stated that a high-end follow-on to the KL processor is likely to be available in 2 to 3 years.

An official from DEC mentioned casually that the expected release date for the 7.01 version of TOPS-10 was "sometime in the fall." At the Toronto DECUS in February the same official said that *September* was the expected release date. For UTCS DEC-10 users this discrepancy means that 7.01 will not likely be installed until sometime in 1981. (Information on 7.01 can be found in three previous DECUS reports in *COMPUTERNEWS:* July/79, Jan-Feb/80 and April/80.) The field testing of 7.01 seems to be quite successful. In particular the dual processor version, called 7.00, was getting rave reviews from most of the sites running it. When 7.01 is finally released it promises to be very solid.

Several sessions at the meeting gave users a chance to tell other users about their home-grown software products (traditionally distributed free of charge). The most interesting of these included the description of a program called DMS (Directory Management System). DMS allows users to add comments to their DEC-10 directories. For UTCS systems people this would be an easy way to keep track of all the system files. Other users with large directories would also find it helpful. DMS allows files to be grouped in many ways, apart from the ppn-sfd structure now available. DMS also offers delayed file deletion and the ability to 'undelete' files. With luck DMS will arrive at UTCS soon (there are no guarantees) and if it tests out as a reasonable product we will likely make it publicly available.

There were also several sessions organised to start task forces whose purpose would be getting DEC to move in particular directions in the future. One task force was formed to provide DEC with user input on the design of future disk utilities. This is particularly important in view of the trend to very high volume disk storage devices. The time involved in taking backups of these disks could become a severe operational problem. DEC wants user input on this problem because they aren't sure which route to take. It was clear from the task force meeting that users aren't sure either.

Prior to the DECUS meeting DEC announced BLISS-36 as a product. BLISS is a block-structured language designed for the implementation of system software. The syntax of BLISS-36 is intended to allow fairly easy movement of programs from the DEC-10 to VAX and PDP-11 systems in BLISS-32 or BLISS-16. This consistency in language syntax across systems is one of Digital's corporate goals. Since BLISS-36 is very expensive it is not likely that UTCS will purchase it. BLISS-10 (the father of BLISS-36) is available on our DEC-10 now.

Even without major announcements this DECUS was a very worthwhile venture for 10/20 users. The next U.S. DECUS will be held in San Diego in the fall.

Corot Reason

COMPUTER ABUSE

There has been publicity during the past weeks about the apparent theft of computer resources by individuals from a New York City private school at a number of Canadian locations. Regrettably, several newspaper articles and broadcast media reports stated that twenty-one Canadian computer systems were penetrated or violated. Our particular concern centres on the erroneous reference to the University of Toronto computers. They were allegedly abused during this escapade.

Although an individual or individuals attempted to sign on to the UTCS facilities, not one of these attempts was successful. It is UTCS' belief that the integrity of our systems was in no way jeopardized.

Access was attempted using public data facilities which are not easily traceable from the computer's end of the telephone. Although this attempt was unsuccessful, it serves once again to emphasize to our users the precautions which they must take to ensure the security of the computing environment. *COMPUTERNEWS* has published articles during the past months, reminding the user of the facilities which exist for changing passwords either through his/her own action or by calling the accounting office. I urge the user to do so regularly and to ensure that all records which may contain his password are maintained as confidentially as possible. Anyone suspecting that his account is being misused should bring it to our attention as rapidly as possible.

As further security tools become available they will be described in *COMPUTERNEWS.*

Frank Spitzer

BMDP 1979

The November 1979 version of the BioMeDical computer programs - P-series (BMDP) is now available and is the default. Included in this upgrade are three new programs plus many improvements and corrections. A complete list of changes can be obtained by running the following job:

```
// <job statement>
// EXEC BMDPNOTE[,FORMS=2009][,]
//              [COPIES=n]
```

where FORMS=2009 is optional, giving upper and lower case on 8.5 X 11 paper, and copies is also optional.

The three new programs are:

1. BMDPLR - Stepwise Logistic Regression
2. BMDP8V - General mixed Model ANOVA -- Equal Cells
3. BMDPKM - K-means Clustering

Among the improvements are:

1. BMDPOPEN is no longer required to simply increase the memory available to a particular problem. The default allows at least 15000 words for all programs. More can be made available simply by increasing the REGION.GO for the job. (I.e., SUBROUTINE IBSIZE is no longer needed.)
2. Some new data management facilities have been added. They include the

continued...

BMDP 1979 continued

ability to sort cases and to delete (or keep) variables in BMDP save files.

3. Data can now be read using different options.

4. Sequence number in the problem input are now detected automatically.

5. There have been a number of improvements and corrections to individual programs.

Anyone having questions about BMDP is invited to consult a Computing Services Representative (CSR).

John Roth

DOCUMENTATION FOR FALL COURSES

The UTCS Information Office requires at least six weeks advance notice for the ordering of documentation for fall courses. This applies to IBM manuals, USERBOOK sections, reference cards and HOW TO USE instruction booklets.

Please direct your requests, in writing, to Dawne Smith, Information Office, Room 206, Engineering Annex. The request should include the title, order number (when relevant) and number of copies of the document required.

Dawne Smith

PERSONNEL CHANGES

Welcome to two new members of the UTCS staff, William Fehlner, CSR in Academic Computing Services, and Joan Massingham, Receptionist in the Management Office.

In Operations, there are three promotions. Congratulations to Frank Pearce, Jim Amos and to Dan Lemmon who is moving from IBM to DEC. Rita Poon has also received a promotion in Administration Services.

Thano Kaponeridis has completed his temporary contract at CSS. Raeann Chipman, Computer Operator in Academic Services, will be leaving the University to accept employment elsewhere as will Ron Ferreira of Operations and Lenora Estwick of Administration Services. We extend best wishes to them all.

Theresa Veira

RECENT ACQUISITIONS IN THE DCS LIBRARY

Boyer, Robert S. and Moore, J.S.
A computational logic.
New York, Academic Press, 1979.

Gries, David, ed.
Programming methodology: a collection of articles by members of IFIP WG23.
New York, Springer-Verlag, 1978.

Holt, R.C. and Hume, J.N.P.
Programming standard PASCAL.
Reston, Va., Reston Pub. Co., 1980.

International Conference on the Theory and Applications of Graphs, Western Michigan University, 1976.
Theory and applications of graphs, ed. by Y. Alivi and D.R. Lick.
Berlin, Springer-Verlag, 1978.

Kruzas, Anthony K., ed.
Encyclopedia of information systems and services. 3d ed.
Detroit, Gale Research Co., 1978.

Savage, John E.
The complexity of computing.
New York, Wiley, 1976.

Fundamenta informaticae (journal).

IEEE transactions on pattern analysis and machine intelligence (journal).

UTCS SYSTEMS

3033 PROCESSOR

- located in Mclennan Physical Laboratories
- provides General Purpose Job Stream, High Speed Job Stream, TSO, WYLBUR
- 6 megabytes of memory
- MVS with JES2

SYSTEM/370 MODEL 165-II

- located in McLennan Physical Laboratories
- provides APL and ATS services
- 4 megabytes of memory
- OS/MVT with APL and ATS

3031 PROCESSOR

- located in McLennan Physical Laboratories
- provides administrative IMS/VS DB/DC Batch and TSO services
- 6 megabytes of memory
- MVS with JES2

DECSYSTEM-10 Model 1090

- located in Sandford Fleming
- provides General Purpose Time-Sharing
- 256 K - 36 bit words of memory
- TOPS-10 operating system

COMMUNICATIONS & SMALL SYSTEMS (CSS)

- located in SF106
- DEC GT44 System with PDP-11/40 CPU
- 2 Z80 based microcomputers
- DEC GT40 System with PDP-11/05 CPU
- provides specialized graphics and inter- active graphics
- provides on-line and real-time computing services, data acquisition and minicomputer services

UTCS DIRECTORY

POSITION	ROOM	CENTREX PHONE NUMBER
Director		
Dr. Doron Cohen	MP350	8948
Associate Directors		
Rein Mikkor	MP350	5058
Al Heyworth	MP350	4936
Faculty Liaison Officer		
Dr. Frank Spitzer	MP350	4619
Manager, Communications & Small Systems		
Eugene Siciunas	MP350	4967
Manager, Operations		
Derry Cox	MP350	7092
Manager, Systems		
Ward Beattie	MP350	3579
Manager, Academic Computing Services		
Ralph Lombardi	MP350	7130
Manager, Administrative Computing Services		
Walter Berndl	MP350	7331
Manager, Services Support		
Don Gibson	MP350	5568
Administrative Officer		
Suzan Fawcett	MP350	4428
Information & Accounting Office		
General Inquiries	EA206	4990
Accounts		
Aggie Stevens (U of T)	EA206	8702
Sylvia May (External)	EA206	7148
Supervisor, Accounting & Information Services		
Marg Doherty	EA209	3960
Access Codes		
Michelle Múle	EA206	8703
Supervisor, Communication Systems		
Walter Rosocha	SF105	7087
Programming Services		
Bill Lauriston	SG201	6877

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UTCS DIRECTORY continued

Entry Services

Supervisor		
Vera Cabanus	MP368	5040
Text Entry		
Dale Wright	MP368	4565
Data Entry		
Zelda Anderson	HU405	5273
Keypunching		
Dale Wright	MP368	4565

Tape Librarians

Academic Services	ML368	7319
Administrative Services	ML368A	6693

Supervisor, Applications

Herb Kugel	SG304	7286

Computing Services Representatives

Engineering Annex Terminal		
Sue Chong	EA201	4357
Program Advisors	EA103	
Time-Sharing Support		
TS Advisors	SG204	6465
Mark Tapia	SG204	7109
Erindale		
	2043	828-5311
Scarborough		
Bob Blackburn		284-3173
Arts and Science		
Bill Fehlner	SS2133	6509
New Physics		
Bob Chambers	MP1202	8823
External		
Ihor Prociuk	SG205	6875,6885

Supervisors, Operations

Paul Scarborough (IBM 3033-IBM 165)	MP335	6220
Krishna Patnaik (DEC-1090 & CSS)	SF106	4086
Dave Wong (IBM 3031)	MP335	6864

Key:

EA = Engineering Annex
SG = 49 St. George
HU = 215 Huron St.
MP = McLennan Physical Laboratories (New Physics)
SF = Sandford Fleming
SS = Sidney Smith

Job and System Status Queries

SYSTEM/3033,TSO	7373
ATS/APL	6234
2741 TERMINAL MALFUNCTIONS	7107

Time-Sharing Services	**Dial-Up**
APL,ATS	7200 Centrex 7201 Non Centrex
TSO,WYLBUR	6200 Centrex 6201 Non Centrex
DEC-10 Services	4224 Centrex 4244 Non Centrex
PHONE-IN ADVISING	6465

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